

Amendments to the Specification

In paragraph 0025 at page 9 line 1, after "dielectric" insert – 407 –

The amended paragraph incorporating this change is set forth below:

[0025] Turning to FIGURE 4, it can now be recognized that a solid glass child mandrel 401 piece has been formed. The top surface 401' is metalized, preferably with stainless steel in a known manner as with metal 203, FIGURE 2A et seq., to a thickness in the approximate range of 0.5 to 1.0 forming a superjacent metal 403 conformed to the shape and dimensions of the solid glass child mandrel 401 piece's top surface 401' features.

Again using a photoresist masking process, child mandrel pillar(s) 405 are rendered non-conducting by depositing a dielectric 407, preferably silicon carbide, "SiC," to a thickness in the approximate range of 3500 to 4000Å. The child mandrel 411 is completed, ready for use in electroforming orifice plate sheets for ink-jet printheads. Thus, FIGURE 4 shows a child mandrel 411 in accordance with the present invention having physical features 405 to control the ink-jet nozzle bore profile. Each physical feature has the inverse shape of the desired bore geometry. For example, the feature(s) 405 can have a circular base with a truncated conical shape having a taper angle Θ . The relationship between the electroform thickness, base diameter, and nozzle exit bore is now in accordance with the equation:

$$D_{\text{bore}} = D_{\text{base}} - 2T \tan \Theta$$

Equation 2.

In paragraph 0027 at p. 9 line 18, change "photoresist 207" to –
photoresist 205' –

In paragraph 0027 at p. 9 line 29, change "resist 205" to – resist 205' –

The amended paragraph incorporating these changes is set forth below:

[0027] An alternative embodiment for forming a father mandrel is illustrated in FIGURES 3A-3B. In effect, it is an inverse process to FIGURES 2A-2C. As depicted by FIGURE 3A, a positive photoresist 205' is exposed; in FIGURE 3B, the exposed resist is stripped leaving a mother mandrel 311 having a resist 205' having an array of "pot holes" 309 associated with the nozzle(s) shape and dimension, again represented as " D_{bore} " (Note here that a negative resist can be used reversely, viz., with a reversed mask, stripping away the unexposed resist to leave the same structure.) However, this embodiment is more difficult to use in forming the mother mandrel, primarily because it is difficult to remove exposed resist in the recess of an acute angle of a feature having a small size.